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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,858	06/27/2003	Alan Michael Jaffee	7304	7146

7590
JOHNS MANVILLE
Legal Department
10100 West Ute Avenue
Littleton, CO 80127

12/27/2006

EXAMINER

CHOI, PETER Y

ART UNIT	PAPER NUMBER
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1771

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/27/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/607,858	Applicant(s) JAFEE, ALAN MICHAEL	
	Examiner Peter Y. Choi	Art Unit 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,8-15 and 17-32 is/are pending in the application.
- 4a) Of the above claim(s) 28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,8-15, 17-27, and 29-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

FINAL ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6, 8-15, 17-19, 21-24, 26, 27, and 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,772,846 to Jaffee.

The above mentioned claims remain rejected as substantially set forth in the Non-Final Rejection of July 25, 2006, section 3.

Response to Arguments

3. Applicant's arguments filed October 24, 2006, have been fully considered but they are not persuasive.
4. Applicant argues that the transitional phrase "consisting essentially of" is misconstrued by Examiner, when Examiner cites Jaffee as prior art, even though Jaffee discloses polymer fibers which are not claimed. In the Non-Final Rejection of July 25, 2006, section 3, Examiner cited MPEP 2111.03 stating that for purposes of searching for and applying prior art under 35 U.S.C. 102 and 103, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, "consisting essentially of" will be construed as equivalent to "comprising." Additionally, Examiner stated that the burden is upon the Applicant to show that the additional components do affect the basic and novel characteristics of the invention.

Applicant argues that the specification, when read as a whole by a person of ordinary skill in the art, and as inferred by the Examiner, would clearly indicate the subject matter intended. Additionally, Applicant submits that the replacement of the term “composed of” with the partially closed transitional phrase “consisting essentially of” in claims 1, 22, 27, 29, and 32 clearly signals Applicant’s understanding of claim scope.

Examiner respectfully disagrees with Applicant’s interpretation of the transitional phrase “consisting essentially of.” While Applicant appears to have set forth the components of the invention and ranges which may be essential to the invention, Applicant has not met the burden of showing that the additional components do affect the basic and novel characteristics of the invention. Applicant has only set forth those characteristics that Applicant believes would be materially affected by the presence of elements in an embodiment that would be outside the scope of the claim without showing how those characteristics would be materially affected by additional components, which are the polymer fibers in Jaffee. In other words, Applicant has not shown that the polymer fibers affect the basic and novel characteristics of the invention. Therefore, since Applicant has not appeared to meet the burden aforementioned, for purpose of searching for and applying prior art under 35 U.S.C. 102 and 103, “consisting essentially of” will be construed as equivalent to “comprising.” The presence of polymer fibers in Jaffee does not distinguish Jaffee from Applicant’s claimed invention.

5. Applicant argues that the Jaffee reference does not teach the claimed diameter and length ranges in combination. Additionally, Applicant contends that Jaffee does not contain a disclosure or suggestion concerning any of the beneficial properties afforded by the board and mat of the claimed invention.

First, regarding Applicant's argument that the claimed glass fiber diameter and length ranges are demonstrably smoother than glass fibers diameters and length ranges outside of the claimed range, Examiner respectfully disagrees. Applicant supports this contention with the Declarations of May 3, 2006 and October 24, 2006, by Alan M. Jaffee in order to establish the superior smoothness of the board claimed and that the superior smoothness is surprising and unexpected.

As set forth on page 10 and 11 of the Non-Final Rejection of July 25, 2006, section 6, "to establish unexpected results over a claimed range, Applicants should compare a *sufficient number* of tests both inside and outside the claimed range to show the criticality of the claimed range. *In re Hill*, 284 F.2d 955, 128 USPQ 197 (CCPA 1960). The Declarations only set forth specifically that a sample with an average fiber diameter of 11 μm and an average fiber length of 12 mm has a higher smoothness than boards made with mats having average fiber diameters of 13 and 8 μm . The Declarations appear to suggest that the smoothness is only a result of the average fiber diameter or a combination of the average fiber diameter and average fiber length. None of the other samples varies the average fiber diameter while maintaining the average fiber length of 12 mm. Therefore, the comparison of the samples is inconclusive as to whether the average fiber length has any affect on the smoothness of the mat.

The Jaffee reference sets forth an average diameter range of the glass fibers from about 9 microns to about 20 microns, preferably 10 microns to about 16 microns, which anticipates the claimed range.

Applicant argues that the May 3, 2006, Declaration is further submitted to establish that the enhanced smoothness for the 11 μm faced board is surprising and unexpected for a person

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having ordinary skill in the art, who would have expected, to the contrary, that the board with mat having the smallest fibers would have been smoother than board made with 11 and 13 μm mat. However, this appears to support Examiner's contention regarding the anticipation of the range by the prior. If one of ordinary skill in the art would have predicted that the board with the smallest fibers would be smoother than the board made with larger fibers, than one of ordinary skill in the art would have expected that the lower range of fibers capable of use in the invention would be smoother. Applicant's claimed range of 9.5 to 12.5 μm is encompassed by the prior art range of 9 microns to 20 microns and one of ordinary skill in the art would have expected that the smaller fibers in the claimed range would be smoother than the larger fibers in the range. Therefore, Applicant does not appear to show that the result of using a fiber in the claimed range, in view of the range taught by the prior art, would have produced surprising or unexpected results.

Additionally, the May 3, 2006, Declaration is not persuasive as it does not appear to show the criticality of the claimed range. The Declaration only appears to show that a fiber with an average fiber diameter within the range of 8-13 μm and with an average fiber length between 9-19 mm, specifically with an average fiber diameter of 11 μm and an average fiber length of 12 mm is smoother than if the average fiber diameter and average fiber length were not 11 μm and 12 mm respectively. It does not appear to demonstrate that results would be surprising or unexpected within the claimed range.

Similarly, the October 24, 2006, Declaration is not persuasive as it does not appear to show the criticality of the claimed range. The Declaration states that the glass fibers described on page 7, lines 29-32 of the specification, have diameters centered at about 16, 15, 13, and 8 μm

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and having fiber lengths of about 25, 25, 19 and 9 mm, respectively. The specification discloses that fibers having a diameter within a narrow range centered at about 11 μm with a length of about 12 mm, as stated in the Declaration, is smoother than the aforementioned diameters ranging from 8-16 μm . The Declaration only appears to show that a fiber with an average fiber diameter within the range of 8-16 μm and with an average fiber length between 9-25 mm, specifically with an average fiber diameter of 11 μm and an average fiber length of 12 mm is smoother than if the average fiber diameter and average fiber length were not 11 μm and 12 mm respectively. It does not appear to demonstrate that results would be surprising or unexpected within the claimed range, only that results may be surprising or unexpected in the larger diameter range of 8-16 μm and with an average fiber length between 9-25 mm.

Second, regarding Applicant's argument that the flame resistance and high permeability of the mat, which permits easy extraction of excess water present in the gypsum slurry during broad fabrication, Examiner respectfully disagrees. Applicant does not appear to argue that the structure disclosed in the Jaffee reference, other than the polymer fibers, is distinguished from the claimed invention. Jaffee discloses an identical structure and chemical composition as the claimed invention. The structure in Jaffee must meet the flame resistance and high permeability of the mat. The claimed invention does not set forth additional structural or chemical requirements which may distinguish the claimed invention from the prior art. Therefore, the properties are deemed inherent to the claimed structure and the structure in the prior art as they both contain identical structural and chemical compositions. Applicant has not provided evidence which suggests that the properties are unique to the claimed invention and would not be apparent to the structure disclosed in Jaffee.

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6. Regarding claims 4-6, Applicant argues that claims 4-6 are patentable over Jaffee for at least the reasons as claim 1 from which they depend. Examiner respectfully disagrees. While Examiner does not suggest that claims 4-6 are or are not patentable over Jaffee, as set forth above, Examiner contends that claims 4-6 are anticipated by the Jaffee reference, as applied to claim 1.
7. Regarding claim 7, as Applicant notes, claim 7 has previously been cancelled rendering the rejection moot.
8. Regarding claim 8, Applicant argues that although the Jaffee reference calls for a majority of the fibers of the mat to have a fiber length ranging from about 6 to 18 mm, the Jaffee reference fails to describe or suggest use of fibers wherein the average fiber ranges from about 6 to 12 mm as claimed. Examiner respectfully disagrees. The Jaffee reference discloses that the glass fibers can be length 0.25 in to 1.0 in and that the fibers can be all about the same or different fiber length (column 3 lines 54-61), which encompasses the claimed range. As the fibers can be all about the same fiber length, and the range taught by the reference encompasses the claimed range, Examiner contends that the Jaffee reference teaches and suggests a fiber length of 6 to 12 mm wherein fibers are all about the same fiber length or have an average fiber length of 6 to 12 mm. While Applicant additionally contends that the claim is not anticipated by the Jaffee reference due to a lack of disclosure or suggestion of the claimed diameter range, as set forth above, Examiner contends that the claimed diameter range is anticipated by the Jaffee reference.
9. Regarding claims 9-15, 17-19, 23, and 24, Applicant maintains that neither the Jaffee reference nor USPN 4,647,496 to Lehnert overcomes the lack of disclosure of the 9.5 to 12.5 μm

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range of average fiber diameter and the 6 to 12 mm range of average fiber length recited by claim 1. As set forth above, Examiner contends that the claimed range of average fiber diameter and range of average fiber length is anticipated by the Jaffee reference. Therefore, 9-15, 17-19, 23, and 24 remain rejected.

10. Regarding claim 29, Applicant argues that the Jaffee reference does not disclose the particular combination of the claimed average fiber diameter range and average fiber length or any species falling within that range. Examiner respectfully disagrees. As set forth above, Examiner contends that the claimed range of average fiber diameter and range of average fiber length, and the properties associated with the claimed ranges, are anticipated by the Jaffee reference.

11. Regarding claims 26, 30 and 31, Applicant argues that the claims are submitted to be patentable over Jaffee for at least the same reasons as claims 1 and 29 from which they respectively depend. Examiner respectfully disagrees. As set forth above, Examiner contends that the claimed range of average fiber diameter and range of average fiber length, and the properties associated with the claimed ranges, are anticipated by the Jaffee reference.

12. Regarding claims 26 and 31, Applicant argues that the Jaffee reference does not disclose or suggest a gypsum board that would exhibit flame resistance sufficient to pass the test of ASTM Method E84, Class 1, or a fibrous mat that would have a permeability of at least about 250 cfm/ft², as measured in accordance with ASTM Standard D237. Examiner respectfully disagrees. While the Jaffee reference does not explicitly disclose the claimed flame resistance when subjected to the claimed test, the Jaffe reference does disclose that an intended purpose is to provide a fibrous mat with improved flame resistance (column 2 lines 2-9). Additionally, the

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Jaffee reference teaches that an embodiment of the mat exhibits more flame resistance than previous mats (column 6 lines 13-47). As set forth above, the structure and chemical composition of the mat taught in the Jaffee reference is identical to the claimed invention (i.e. gypsum board sandwiched by two facing layers comprising chopped glass fibers having an average fiber diameter from 9.5 to 12.5 microns and having average fiber length of 6 to 12 mm), which would result in the claimed properties. Absent evidence that an additional element not disclosed in the Jaffee reference is material to the claimed invention and present in a particular amount resulting in the flame resistance which would be sufficient to pass the test of ASTM Method E84, Class 1, it is reasonable to presume that the flame resistance property is inherent. Therefore, the burden is upon the Applicant to prove otherwise. *In re Fitzgerald*, 205 USPQ 594 (CCPA 1980). Similarly, it is reasonable to presume that the claimed permeability of 300 cfm/ft², as measured in accordance with ASTM Standard D237 is inherent to the structure and chemical composition of the mat taught in the Jaffee reference, which is identical to the claimed invention, as discussed above. Therefore, the burden is upon the Applicant to prove otherwise. *In re Fitzgerald*, 205 USPQ 594 (CCPA 1980).

Applicant argues that there are substantial differences between the gypsum board disclosed or suggested by Jaffee and the board recited by claim 1, specifically referring to the preferred diameter ranges and the larger diameter fibers. Applicant appears to suggest that the claimed properties in claims 26 and 31 cannot be inherent to the structure disclosed in the Jaffee reference due to substantial differences in the structure disclosed in Jaffee and the claimed structure. Applicant argues that the substantial differences relate to the fiber diameter ranges and fiber lengths. Therefore, Applicant appears to suggest that the flame resistance and permeability

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properties are dependent solely on the fiber diameter and fiber length. As set forth above, Examiner contends that the preferred diameter ranges and the larger diameter fibers are anticipated by the Jaffee reference and the claimed properties are deemed inherent to the structure and chemical composition disclosed in the Jaffee reference.

Applicant further points to USPN 4,637,951 to Gill which discloses a fibrous glass mat that includes a majority of base fibers having a mean diameter in the range of 10 microns with a minor amount of microfibers, the mat disclosed in Gill preferably having a porosity of no greater than 225 cfm/ft². Applicant argues that based on Gill, Jaffee does not inherently have Applicant's claimed air permeability range.

Examiner respectfully disagrees. As set forth above, Applicant appears to argue that the air permeability property is dependent on the average diameter range and average length range associated with the fibers. As the Jaffee reference anticipates the claimed ranges, the air permeability, inherent to those properties, is anticipated as well.

Gill is distinguishable and rebuttable. While Gill appears to disclose the combination of glass fibers and microfibers with a porosity of no greater than 225 cfm/ft², the Jaffee reference discloses the combination of glass fibers and microdenier synthetic polymer fibers or the combination of glass fibers and synthetic polymer fibers which presumably are not microfibers (Jaffee, column 3 lines 47-52). As Gill notes, microfiber is a term of art referring to fibrous materials having a mean diameter in the neighborhood of one micron (Gill, column 3 lines 26-30). Therefore, even if the addition of microfibers to the glass fibers would result in an air permeability which does not read on the claimed range, Applicant has not provided evidence that

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generally, the addition of polymer fibers and not microfibers, results in an air permeability that does not read on the claimed range.

Additionally, if there is an additional structural or chemical component disclosed in the Gill invention but not in the Jaffee reference that affects the air permeability, then the prior art reads on the claim limitations and the claimed properties must be inherent to the prior art product. If the property is not inherent, it is asserted that Applicant's claim must be incomplete. As set forth above, the claimed average fiber diameter and length ranges are anticipated by the prior art. If the claimed ranges are solely responsible for the properties and Applicant asserts a lack of inherency in the prior art product, then Applicant's claimed invention is missing an element that is critical to the invention which would patentably distinguish it from the known prior art.

Gill is rebuttable by USPN 6,187,697 to Jaffee ('697). '697 discloses a multilayer mat comprised of a majority of glass fibers and may include a minority of polymer fibers ('697, column 5 lines 27-48). The glass fibers may be at least 0.25 in or longer with a diameter of 10 microns in one embodiment, although the lengths and fiber diameters may vary, and the web is bonded together with a resin binder (column 5 lines 27-35, column 7 lines 49-64, column 2 lines 19-26). Examples 3-8 appear to disclose that a glass fiber mat with fibers having a diameter of 10 microns and a length of 0.5 in can have an air permeability of greater than 300 cfm/ft² (column 7 line 49 to column 8 line 32). Additionally, the '697 reference states that the permeability of nonwoven mats can be reduced substantially in the control one layer by increasing the fiber length and fiber diameter and including microfibers having an average fiber diameter of between 2 and 3 microns ('697, Examples 9-13). Therefore, the '697 reference

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appears to suggest that polymer fibers disclosed in the Jaffee reference do not effect the air permeability, whereas the addition of microfibers do effect air permeability.

While Applicant argues that the Gill reference establishes that at least some of the mats within the Jaffee disclosure do not possess the requisite air permeability, Examiner respectfully disagrees. The Jaffee reference discloses the claimed structure and chemical composition in addition to the claimed ranges which Applicant relies upon to establish the claimed properties. Additionally, as set forth above, Applicant has not established that a minority of polymer fibers in combination with the disclosed ranges would lead to an air permeability which does not read on the claimed air permeability. For the aforementioned reasons, the Jaffee reference anticipates claims 26 and 31.

13. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,772,846 to Jaffe, as applied to claims 1-6, 8-15, 17-19, 21-24, 26, 27, and 29-32, in view of USPN 6,365,533 to Horner, Jr.

Claim 20 remains rejected as substantially set forth in the Non-Final Rejection of July 25, 2006, section 4.

Response to Arguments

14. Applicant's arguments filed October 24, 2006, have been fully considered but they are not persuasive. Applicant only argues that the Jaffee teaching, as applied to claim 20, does not disclose or suggest the claimed average fiber diameter range. Examiner respectfully disagrees.

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As set forth above, the Jaffee reference anticipates the claimed average fiber diameter range.

Therefore, the rejection is maintained

15. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,772,846 to Jaffe, as applied to claims 1-6, 8-15, 17-19, 21-24, 26, 27, and 29-32, in view of USPN 7,056,582 to Carbo.

Claim 25 remains rejected as substantially set forth in the Non-Final Rejection of July 25, 2006, section 5.

Response to Arguments

16. Applicant's arguments filed October 24, 2006, have been fully considered but they are not persuasive. Applicant only argues that the Jaffee teaching, as applied to claim 25, does not remedy the lack of disclosure or suggestion of the particular fiber constituents provided by the mat recited by Applicant's claim 1. Examiner respectfully disagrees. As set forth above, the Jaffee reference anticipates the claimed average fiber diameter range. Therefore, the rejection is maintained

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

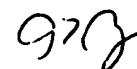
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Y. Choi whose telephone number is (571) 272-6730. The examiner can normally be reached on Monday - Friday, 08:00 - 15:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Peter Y. Choi
December 19, 2006



ANDREW PIZIALI
PRIMARY EXAMINER